

PRACTICE TEST 2 - CHAPTER 7

Beginning and Intermediate Algebra by Elayn Martin-Gay, 6th edition

****Reminder: Graphing Calculators will NOT be allowed on MATH 0362 tests******Find the domain of each rational function:**

1. $f(x) = \frac{3x-2}{9-x}$

2. $f(x) = \frac{x+10}{x^2-16}$

Simplify each rational expression:

3. $\frac{9-x^2}{x-3}$

4. $\frac{x^3+4x^2}{x^2+2x-8}$

Find the product and simplify; if possible:

5. $\frac{9x}{y^2} \cdot \frac{5y}{4x}$

6. $\frac{x^2-9}{x^2-2x-3} \cdot \frac{x+1}{x}$

7. $\frac{x^2+11x+24}{x-9} \div \frac{x^2+2x-3}{x-9}$

Add or subtract the rational expressions as indicated and simplify; if possible:

8. $\frac{x+5}{x-8} + \frac{4x+6}{x-8}$

9. $\frac{11x+14}{x^2-10x+24} - \frac{10x+18}{x^2-10x+24}$

10. $\frac{7x+8}{x^2-12x+27} - \frac{6x+11}{x^2-12x+27}$

Perform each indicated operation and simplify; if possible.

11. $\frac{1}{x} + \frac{2}{5x^2}$

12. $\frac{3}{x} - 4$

13. $\frac{7}{x^2 + 5x - 6} - \frac{3}{x - 1}$

Solve the following equations:

14. $\frac{w-8}{3} = \frac{w}{7}$

15. $\frac{6x}{x+2} - 6 = \frac{x-23}{x-2}$

16. $\frac{a}{a-2} = \frac{-6}{a-5}$

17. $\frac{x+1}{x+5} = \frac{x^2-27x}{x^2+3x-10} - \frac{x-5}{x-2}$

Solve the following:

18. One-third equals the quotient of a number and 24. Find the number.
19. It takes a mom 3 hours to weed a large flower bed in her yard. Her daughter can weed the same area in 2 hours. If the two work together, find how long it will take them to complete the job.
20. A jogger begins his workout by jogging to the park, a distance of 14 miles. For his cool down, he jogs along a different route that is 10 miles long and reduces his speed by 2 miles per hour. Each portion of the workout took the same time. Find the jogger's speed during the first portion and find his speed during the cool down portion.

Simplify the following complex fractions:

$$21. \frac{3 - \frac{7}{x}}{x + \frac{7}{8x}}$$

$$22. \frac{\frac{7}{x} + \frac{2}{x^2}}{\frac{y}{x^2}}$$

Practice Test 2 Chapter 7 Answers

1. $(-\infty, 9) \cup (9, \infty)$

2. $(-\infty, -4) \cup (-4, 4) \cup (4, \infty)$

3. $-(3+x)$ or $-3-x$

4. $\frac{x^2}{x-2}$

5. $\frac{45}{4y}$

6. $\frac{x+3}{x}$

7. $\frac{x+8}{x-1}$

8. $\frac{5x+11}{x-8}$

9. $\frac{1}{x-6}$

10. $\frac{1}{x-9}$

11. $\frac{5x+2}{5x^2}$

12. $\frac{3-4x}{x}$

13. $\frac{-3x-11}{x^2+5x-6}$

14. $w=14$

15. $x=14$ $x=-5$

16. $a=3, -4$

17. $x=-27$ $x=1$

18. The unknown number is 8.

19. Together, the mom and daughter can weed the bed in $1\frac{1}{5}$ hours.

20. Jogging speed in first portion is 7 mph. Jogging speed in the second portion is 5 mph.

21. $\frac{24x-56}{8x^2+7}$

22. $\frac{7x+2}{y}$